

CHAPTER 3

RESEARCH METHODOLOGY

The steps to complete this project are :

1. Study the Algorithm

Study the algorithm by searching on internet, watching videos on *Youtube*, and reading journals related to Hungarian algorithm. There are eight journals which have been read to find the similarity and difference related to this project. The journals are included in chapter 2. Furthermore, the study is also done by solving some example cases in paper.

2. Design the Program

The program is designed by making simple input display to user. There is a textfield and submit button. Result of user input determines the number of worker, job, and cost data. The worker, job, and cost data are generated automatically by the program. The process of Hungarian is done in stored procedure. The processes are normalizing and eliminating data. There are many stored procedures in the program. The stored procedures are called in PHP to be run. The processes are displayed in desktop, so is the output of the final result.

3. Implementation

The program is made using PHP language, MySQL database, and Stored Procedure. The display of program, calling stored procedure and generating worker and job process are made with PHP language. While generating random number, inserting data, normalizing and eliminating process are in stored procedure. The worker, job, cost, and result data are stored in MySQL database.

4. Make Project Report

After finish making the program, it is continued by making project report. The project reports consists of cover, approval and ratification page, statement of

originality, abstract, preface, table of content, illustration index, index of tables, introduction, literature study, research methodology, analysis and design, implementation and testing, conclusion, references, and appendix. In introduction, it contains background of the selected problem, few explanation about the algorithm used in the project, and the main goal to this project. Introduction is in chapter 1. In literature study, it is about comparable journals related to the project and few explanation of the method to compute the data. Literature study is in chapter 2. In research methodology, it is methodology and plans made to finish the project. Research methodology is in chapter 3. In Analysis and design, it is describing the analysis of problem solving and design of the program. Analysis and design is in chapter 4. In implementation and testing, it contains implementation of the program to solve the problem and the result of the program. Implementation and testing is in chapter 5. In conclusion, it contains the conclusion of the project and advice given to develop the project. In references, it contains journals referenced related to the project. In appendix, it contains all the program codes in the program.

